

PATENT ABSTRACTS OF JAPAN

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(71)Applicant : NEC CORP

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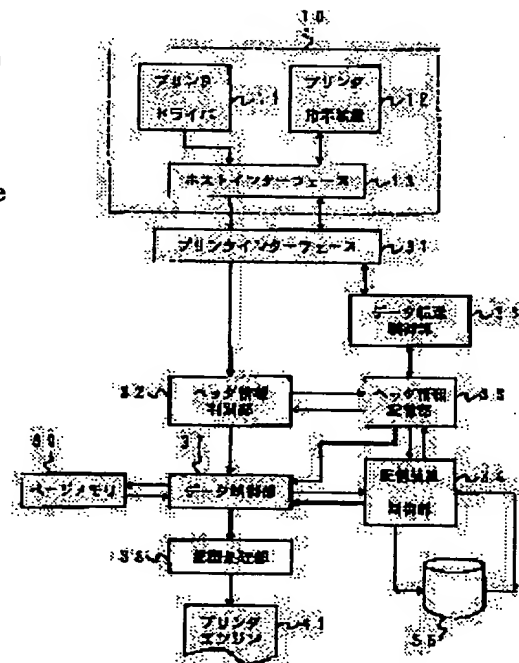
(72)Inventor : TORIKAI KAZUYA

(54) PRINTER

(57)Abstract:

PURPOSE: To provide a printer wherein the selection of a job is easy and the selection of the job can be performed even by a host computer.

CONSTITUTION: Header data is added to the processing data transmitted from a host computer 10. In a printer, the processing data is stored in the memory area selected from a plurality of the memory areas of a data memory device 35 and, further, the header data is stored in a header data memory part 33 accompanied by the address data showing the selected memory area. The address data accompanied by the header data is read from a header data memory device on the basis of a printing request and the processing data of the memory area expressed by the read address data is read and printing processing is executed on the basis of the read processing data.



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CLAIMS

[Claim(s)]

[Claim 1] The data stream which has the header information added to processed data and these processed data is received. A processed-data storage means to be the airline printer which prints said processed data, and to memorize said processed data to the storage area as which it was chosen of two or more storage areas, A header information storage means to memorize said header information with the address data showing said selected storage area, An address-data read means to read the address data accompanying said header information in said header information storage means based on a printing demand, The airline printer characterized by including a processed-data read means to read the processed data of the storage area expressed with said read address data in said processed-data storage means, and the printing processing means which carries out printing processing of the processed data read with said processed-data read means.

[Claim 2] A header information distinction means to distinguish the header information for the data discernment added to processed data in the printer driver of the application software which starts on a host computer, A header information storage means to memorize said header information, and a processed-data storage means to memorize said processed data, The airline printer characterized by having the processed-data control means which controls said processed-data storage means and notifies the storing address of said processed data to said header information storage means, and a printing processing means for printing the processed data chosen by the demand by said header information.

[Claim 3] The airline printer characterized by having the bidirectional data transfer control means which reads the processed data memorized by said processed-data storage means from said header information storage means in an airline printer according to claim 2, and is transmitted to the printer maintenance data retrieval selection directions software on said host computer.

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DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[Industrial Application] This invention relates to the airline printer which prints the processed data made especially with the host computer about the airline printer used together with a host computer.

[0002]

[Description of the Prior Art] An example of this kind of airline printer is indicated by JP,4-314559,A. The airline printer is explained with reference to drawing 6 R> 6. The host interface 51 receives the transmit data from a host computer (not shown) as received data. As for received data, command analysis is performed in the command analysis activation section 52. Received data are further memorized by a page buffer 53 and disk memory 54. According to actuation of a control panel 55, the drawing section 56 chooses and processes the data of disk memory 54, and generates drawing data. Drawing data are memorized as image data for printing by the printer to an image memory 57 while being sent to the printer interface 59. The image data is transmitted to the printer interface 59 by the video transfer circuit 58. Printer engine (not shown) is connected to the printer interface 59.

[0003] Next, actuation of the airline printer of drawing 6 is explained. The received data received with the host interface 51 are the command groups which can be processed by the paint program 56, and do not include the information for identifying data. Usually, although received data are memorized by the page buffer 53, in order to avoid the repeat data transfer from a host computer, disk memory 54 also memorizes at coincidence. The received data memorized by the page buffer 53 are processed in the drawing section 56, and are eliminated after the completion of printing. However, the printout of the same data can be carried out last time, without re-receiving data from a host computer by reading again the received data memorized from the control panel 55 to disk memory 54, since disk memory 54 also memorizes.

[0004]

[Problem(s) to be Solved by the Invention] However, since received data are simply memorized to disk memory 54 in the airline printer of drawing 6, discernment of data is difficult. Therefore, selection of a job was difficult when two or more jobs (a series of data which consist of an unit or two or more pages) existed. Moreover, there was a trouble that a job could not be chosen, with a host computer.

[0005] So, selection of a job is easy for the technical problem of this invention, and is to offer the airline printer which can choose a job also with a host computer.

[0006] Other technical problems of this invention are to offer the airline printer which could perform selection of data, and elimination with the host computer, therefore canceled troublesome actuation.

[0007]

[Means for Solving the Problem] According to this invention, the data stream which has the header information added to processed data and these processed data is received. A processed-data storage means to be the airline printer which prints said processed data, and to memorize said processed data to the storage area as which it was chosen of two or more storage areas, A

header information storage means to memorize said header information with the address data showing said selected storage area, An address-data read means to read the address data accompanying said header information in said header information storage means based on a printing demand, The airline printer characterized by including a processed-data read means to read the processed data of the storage area expressed with said read address data in said processed-data storage means, and the printing processing means which carries out printing processing of the processed data read with said processed-data read means is obtained.

[0008] Moreover, a header information distinction means to distinguish the header information for the data discernment which was added to processed data in the printer driver of the application software which starts on a host computer according to this invention, A header information storage means to memorize said header information, and a processed-data storage means to memorize said processed data, Said processed-data storage means is controlled and the airline printer characterized by having the processed-data control means which notifies the storing address of said processed data to said header information storage means, and a printing processing means for printing the processed data chosen by the demand by said header information is obtained.

[0009]

[Example] Next, this invention is explained with reference to a drawing.

[0010] Drawing 1 is the block diagram showing the airline printer by one example of this invention with relation with a host computer 10. A host computer 10 transmits a series of command groups which can process an airline printer including the printer driver 11 only for printers specified according to application software, the printer designating device 12 specified according to printer maintenance data retrieval selection directions software, and the host interface 13 connected to these. The host interface 13 is a bidirectional I/O interface.

[0011] As shown in drawing 2 , as the header information, a printer driver 11 adds the data control name 22, the data-hold level 23, and a date 24, and transmits to the processed data 21 which can be processed with an airline printer through the host interface 13 at an airline printer as a data stream 20. 32 bytes is assigned to the data control name 22. Logic "0" of the lowest digit bit of the 8 bits expresses provisional storage (T), and logic "1" expresses lasting storage (P) so that 1 byte may be assigned to the data-hold level 23 and it may explain later. In addition, 6 bytes is assigned to a date 24.

[0012] Next, an airline printer is explained. The airline printer includes the printer interface 31. The data stream 20 transmitted from the host interface 13 is received by the printer interface 31. The printer interface 31 is also a bidirectional I/O interface. The data stream 20 received with the printer interface 31 is supplied to the head information distinction section 32. The header information distinction section 32 checks the first data control name 22, and distinguishes whether it is the management name already registered into the header information storage section 33 from the part of the header information of a data stream 20. If the data control name 22 is a new name thing, this will be registered into the header information storage section 33 as a new management name. It is updated when the data control name 22 is registered. Furthermore, it is registered as shown in the information storing table which also mentions the data-hold level 22 and the date 23 following the data control name 22 later in the header information storage section 33.

[0013] This airline printer contains the store control section 34, the processed-data store 35, the data transfer control section 36, the data control section 37, the drawing processing section 38, the page memory 39, and printer engine 41 further so that it may explain to a detail later.

[0014] The information storing table registered into drawing 3 by the header information storage section 33 is shown. In this information storing table, ID25 and a memory address 26 are added to the data control name 22, the data-hold level 23, and a date 24. Instead of choosing the memorized data by the data control name 21, ID25 assigns an ID code and enables it to choose it by ID31 for convenience. A memory address 26 means the starting address with which processed data are stored within the limits of this, when 20 M bytes of area from 0000000h street to 13FFFFFFh addresses is secured as a processed-data store 35.

[0015] The area of a memory address 26 is divided into the provisional data storage area from

0000000h street to 09FFFFFFh addresses, and the lasting data storage area from zero A00000h street to 13FFFFFFh addresses. it is determined on the data-hold level 23 in the information header of the previous data stream 20 whether to resemble which of a provisional data storage area and a lasting data storage area, and to memorize processed data. In a provisional data storage area, when there is no room of storage with data [finishing / storage / already], processing which throws away the old thing of the date is performed automatically. In a lasting data storage area, when there is no room of storage, which data are thrown away must distinguish and eliminate by the user side. About the elimination selection approach, it mentions later.

[0016] Processed-data storage has many storage areas. All of retrieval of the empty area of these storage areas and the decision of a writing place starting address are performed by the storage control section 34. Moreover, he is trying to make the information on the retrieval and decision reflect in the starting address of the header information storage section 33. It is stored in the header information storage section 33, and, as for the data control name 21 as header information of a data stream 20, the data-hold level 22, and a date 23, only the continuing processed data 21 are memorized by the storage area as which it was chosen of many storage areas of the processed-data store 35 by the storage device control section 34. Therefore, header information will be recorded on an information storing table with the address data showing the selected storage area.

[0017] Processed data 21 are sent also to the page memory 39 through the header information distinction section 32, and, in addition to the processed-data store 35, are memorized by the page memory 39. And after the processed data memorized by the page memory 35 are usually sent to the drawing processing section 38 under control of the data control section 39 and predetermined processing is performed in this drawing processing section 38, it is sent to printer engine 41 and printed by that actuation. The processed data of the page memory 35 are eliminated after completion of printing.

[0018] Next, selection and the elimination approach of data are explained.

[0019] The printer designating device 12 of a host computer 10 is started. As each of the host interface 13 which connects the host computer 10 and airline printer at this time, and the printer interface 31, RS232C serial interface or the parallel interface of IEEE 1284 conformity can be used.

[0020] The data transfer control section 36 reads in the header information storage section 33 a list of the processed data memorized by the processed-data store 35, and transmits it to a host computer 10. The transfer information at this time is ID25, the data control name 22, the data-hold level 23, and a date 24. the printer designating device 12 displays contents as boiled the transfer information, and responded, for example, shown in drawing 4 on the monitor display of a host computer 10. ID number 31 is not displayed at this time. A user chooses data to re-output on monitor display, or data to eliminate by the management name, and inputs an item number. In response to this actuation, the printer designating device 12 transmits again data re-output / elimination directions data stream which directs the re-output or elimination of processed data to an airline printer. The directions by the data stream at this time are performed by ID25.

[0021] If the printer designating device 12 gives to an airline printer, the demand of a re-output, i.e., a printing demand, of processed data, based on this, the data control section 37 will read the address data accompanying header information in the header information storage section 33. At this time, the data control section 37 works as an address-data reader. The processed data of the storage area furthermore expressed with the read address data are read by the storage control section 34. At this time, the store control section 34 works as a processed-data reader. After performing delivery and predetermined drawing processing for these read processed data in the drawing processing section 38 through the data control section 37, the printer engine 41 as a printing processing means is made to perform delivery and predetermined printing.

[0022] Drawing 6 shows data re-output / elimination directions data stream. In re-output directions, data are called by the store control section 34 from the processed-data store 35 from the starting address of the data corresponding to ID25, and it is transmitted to the data control section 37. Hereafter, similarly, drawing data are created by the drawing processing

section 38, and a printout is usually carried out with printer engine 10.

[0023] Since according to the airline printer mentioned above it becomes discriminable [two or more jobs] and selection and elimination of processed data can carry out through a host computer 10 by adding a data control name, data-hold level, and a date to processed data as header information, the troublesomeness of actuation of an airline printer is canceled.

[0024]

[Effect of the Invention] As explained above, according to this invention, selection of a job is easy and the airline printer which can choose a job also with a host computer can be offered. Moreover, a host computer can perform selection of data, and elimination, therefore troublesome actuation can also be canceled.

[Translation done.]

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TECHNICAL FIELD

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PRIOR ART

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[0003] Next, actuation of the airline printer of drawing 6 is explained. The received data received with the host interface 51 are the command groups which can be processed by the paint program 56, and do not include the information for identifying data. Usually, although received data are memorized by the page buffer 53, in order to avoid the repeat data transfer from a host computer, disk memory 54 also memorizes at coincidence. The received data memorized by the page buffer 53 are processed in the drawing section 56, and are eliminated after the completion of printing. However, the printout of the same data can be carried out last time, without re-receiving data from a host computer by reading again the received data memorized from the control panel 55 to disk memory 54, since disk memory 54 also memorizes.

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EFFECT OF THE INVENTION

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TECHNICAL PROBLEM

[Problem(s) to be Solved by the Invention] However, since received data are simply memorized to disk memory 54 in the airline printer of drawing 6, discernment of data is difficult. Therefore, selection of a job was difficult when two or more jobs (a series of data which consist of an unit or two or more pages) existed. Moreover, there was a trouble that a job could not be chosen, with a host computer.

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MEANS

[Means for Solving the Problem] According to this invention, the data stream which has the header information added to processed data and these processed data is received. A processed-data storage means to be the airline printer which prints said processed data, and to memorize said processed data to the storage area as which it was chosen of two or more storage areas, A header information storage means to memorize said header information with the address data showing said selected storage area, An address-data read means to read the address data accompanying said header information in said header information storage means based on a printing demand, The airline printer characterized by including a processed-data read means to read the processed data of the storage area expressed with said read address data in said processed-data storage means, and the printing processing means which carries out printing processing of the processed data read with said processed-data read means is obtained. [0008] Moreover, a header information distinction means to distinguish the header information for the data discernment which was added to processed data in the printer driver of the application software which starts on a host computer according to this invention, A header information storage means to memorize said header information, and a processed-data storage means to memorize said processed data, Said processed-data storage means is controlled and the airline printer characterized by having the processed-data control means which notifies the storing address of said processed data to said header information storage means, and a printing processing means for printing the processed data chosen by the demand by said header information is obtained.

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EXAMPLE

[Example] Next, this invention is explained with reference to a drawing.

[0010] Drawing 1 is the block diagram showing the airline printer by one example of this invention with relation with a host computer 10. A host computer 10 transmits a series of command groups which can process an airline printer including the printer driver 11 only for printers specified according to application software, the printer designating device 12 specified according to printer maintenance data retrieval selection directions software, and the host interface 13 connected to these. The host interface 13 is a bidirectional I/O interface.

[0011] As shown in drawing 2, as the header information, a printer driver 11 adds the data control name 22, the data-hold level 23, and a date 24, and transmits to the processed data 21 which can be processed with an airline printer through the host interface 13 at an airline printer as a data stream 20. 32 bytes is assigned to the data control name 22. Logic "0" of the lowest digit bit of the 8 bits expresses provisional storage (T), and logic "1" expresses lasting storage (P) so that 1 byte may be assigned to the data-hold level 23 and it may explain later. In addition, 6 bytes is assigned to a date 24.

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[0013] This airline printer contains the store control section 34, the processed-data store 35, the data transfer control section 36, the data control section 37, the drawing processing section 38, the page memory 39, and printer engine 41 further so that it may explain to a detail later.

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[0015] The area of a memory address 26 is divided into the provisional data storage area from 0000000h street to 09FFFFFFh addresses, and the lasting data storage area from zero A00000h street to 13FFFFFFh addresses. it is determined on the data-hold level 23 in the information header of the previous data stream 20 whether to resemble which of a provisional data storage area and a lasting data storage area, and to memorize processed data. In a provisional data

storage area, when there is no room of storage with data [finishing / storage / already], processing which throws away the old thing of the date is performed automatically. In a lasting data storage area, when there is no room of storage, which data are thrown away must distinguish and eliminate by the user side. About the elimination selection approach, it mentions later.

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[0017] Processed data 21 are sent also to the page memory 39 through the header information distinction section 32, and, in addition to the processed-data store 35, are memorized by the page memory 39. And after the processed data memorized by the page memory 35 are usually sent to the drawing processing section 38 under control of the data control section 39 and predetermined processing is performed in this drawing processing section 38, it is sent to printer engine 41 and printed by that actuation. The processed data of the page memory 35 are eliminated after completion of printing.

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[0020] The data transfer control section 36 reads in the header information storage section 33 a list of the processed data memorized by the processed-data store 35, and transmits it to a host computer 10. The transfer information at this time is ID25, the data control name 22, the data-hold level 23, and a date 24. the printer designating device 12 displays contents as boiled the transfer information, and responded, for example, shown in drawing 4 on the monitor display of a host computer 10. ID number 31 is not displayed at this time. A user chooses data to re-output on monitor display, or data to eliminate by the management name, and inputs an item number. In response to this actuation, the printer designating device 12 transmits again data re-output / elimination directions data stream which directs the re-output or elimination of processed data to an airline printer. The directions by the data stream at this time are performed by ID25.

[0021] If the printer designating device 12 gives to an airline printer, the demand of a re-output, i.e., a printing demand, of processed data, based on this, the data control section 37 will read the address data accompanying header information in the header information storage section 33. At this time, the data control section 37 works as an address-data reader. The processed data of the storage area furthermore expressed with the read address data are read by the storage control section 34. At this time, the store control section 34 works as a processed-data reader. After performing delivery and predetermined drawing processing for these read processed data in the drawing processing section 38 through the data control section 37, the printer engine 41 as a printing processing means is made to perform delivery and predetermined printing.

[0022] Drawing 6 shows data re-output / elimination directions data stream. In re-output directions, data are called by the store control section 34 from the processed-data store 35 from the starting address of the data corresponding to ID25, and it is transmitted to the data control section 37. Hereafter, similarly, drawing data are created by the drawing processing section 38, and a printout is usually carried out with printer engine 10.

[0023] Since according to the airline printer mentioned above it becomes discriminable [two or more jobs] and selection and elimination of processed data can carry out through a host computer 10 by adding a data control name, data-hold level, and a date to processed data as

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DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]

[Drawing 1] It is the block diagram showing the airline printer by one example of this invention with relation with a host computer.

[Drawing 2] It is the explanatory view of the data stream transmitted from a host computer.

[Drawing 3] It is the explanatory view of the information storing table of the header information storage section contained in the airline printer of drawing 1 .

[Drawing 4] It is the explanatory view of an example of the contents of a display of the monitor display of a host computer.

[Drawing 5] It is the explanatory view of data re-output / elimination directions data stream.

[Drawing 6] It is the block diagram of the conventional airline printer.

[Description of Notations]

- 10 Host Computer
- 11 Printer Driver
- 12 Printer Designating Device
- 13 Host Interface
- 31 Printer Interface
- 32 Header Information Distinction Section
- 33 Header Information Storage Section
- 34 Storage Control Section
- 35 Data Storage
- 36 Data Transfer Control Section
- 37 Data Control Section
- 38 Drawing Processing Section
- 39 Page Memory
- 41 Printer Engine

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DRAWINGS

[Drawing 4]

現在、データ記憶媒体に保持されている データリスト		
1. データ 1	T	1994.8.5
2. データ 2	P	1994.8.20
3. データ 3	P	1994.9.10
4. データ 4	T	1994.9.25
データを再出力しますか？		
データを消去しますか？		

~ 0

[Drawing 5]

ソフト出力識別コード	再出力/消去	ID
------------	--------	----

[Drawing 1]

(19)日本国特許庁 (J P)

(12) 公 開 特 許 公 報 (A)

(11)特許出願公開番号

特開平8-156342

(43)公開日 平成8年(1996)6月18日

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B 4 1 J 5/30	E			
29/38	Z			
G 0 6 F 3/12	B			

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(21)出願番号 特願平6-300006

(22)出願日 平成6年(1994)12月2日

(71)出願人 000004237

日本電気株式会社

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(72)発明者 島飼 和哉

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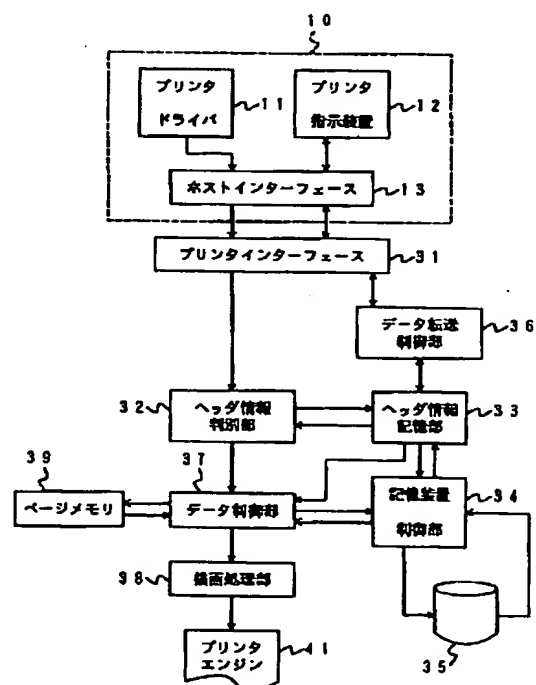
(74)代理人 弁理士 後藤 洋介 (外2名)

(54)【発明の名称】 印刷装置

(57)【要約】

【目的】 ジョブの選択が容易でありかつホストコンピュータでもジョブの選択を行うことができる印刷装置を提供すること。

【構成】 ホストコンピュータ10から送信される処理データにヘッダ情報を付加する。印刷装置においては、データ記憶装置35の複数の記憶エリアの内の選ばれた記憶エリアに処理データを記憶する。またその選ばれた記憶エリアを表すアドレスデータを伴ってヘッダ情報をヘッダ情報記憶部33に記憶する。印刷要求に基づきヘッダ情報記憶装置からヘッダ情報に伴うアドレスデータを読み取り、その読取ったアドレスデータで表された記憶エリアの処理データを読み取る。読取った処理データに基づき印刷処理する。



【特許請求の範囲】

【請求項 1】 処理データと該処理データに付加されたヘッダ情報とを有するデータ列を受信し、前記処理データの印刷を行う印刷装置であって、複数の記憶エリアのうちの選ばれた記憶エリアに前記処理データを記憶する処理データ記憶手段と、前記選ばれた記憶エリアを表すアドレスデータを伴って前記ヘッダ情報を記憶するヘッダ情報記憶手段と、印刷要求に基づき前記ヘッダ情報記憶手段から前記ヘッダ情報に伴うアドレスデータを読取るアドレスデータ読取り手段と、前記処理データ記憶手段から前記読取ったアドレスデータで表された記憶エリアの処理データを読取る処理データ読取り手段と、前記処理データ読取り手段で読取った処理データを印刷処理する印刷処理手段とを含むことを特徴とする印刷装置。

【請求項 2】 ホストコンピュータ上で起動するアプリケーションソフトウェアのプリンタドライバにて処理データに付加されたデータ識別の為のヘッダ情報を判別するヘッダ情報判別手段と、前記ヘッダ情報を記憶するヘッダ情報記憶手段と、前記処理データを記憶する処理データ記憶手段と、前記処理データ記憶手段を制御し、前記処理データの格納番地を前記ヘッダ情報記憶手段に通知する処理データ制御手段と、要求により前記ヘッダ情報で選択された処理データを印刷するための印刷処理手段とを備えたことを特徴とする印刷装置。

【請求項 3】 請求項 2 記載の印刷装置において、前記処理データ記憶手段に記憶された処理データを前記ヘッダ情報記憶手段より読取り、前記ホストコンピュータ上のプリンタ保持データ検索選択指示ソフトウェアに転送する双方向データ転送制御手段を備えたことを特徴とする印刷装置。

【発明の詳細な説明】

【0001】

【産業上の利用分野】 本発明は、ホストコンピュータと合わせて使用される印刷装置に関し、特にホストコンピュータにて作られた処理データを印刷する印刷装置に関する。

【0002】

【従来の技術】 この種の印刷装置の一例は特開平 4-314559 号公報に記載されている。その印刷装置を図 6 を参照して説明する。ホストコンピュータ（図示せず）からの送信データをホストインターフェース 51 で受信データとして受信する。受信データはコマンド解析実行部 52 でコマンド解析が行われる。受信データはさらにページバッファ 53 とディスクメモリ 54 とに記憶される。操作パネル 55 の操作にしたがい、描画部 56 がディスクメモリ 54 のデータを選択し処理し描画データを生成する。描画データはプリンタインターフェース 59 に送られるとともに画像メモリ 57 にプリンタにて印刷する為の画像データとして記憶される。その画像データはビデオ転送回路 58 にてプリンタインターフェー

ス 59 に転送される。プリンタインターフェース 59 にはプリンタ・エンジン（図示せず）が接続される。

【0003】 次に図 6 の印刷装置の動作について説明する。ホストインターフェース 51 で受信した受信データは、描画プログラム 56 で処理可能なコマンド群であり、データを識別する為の情報を含んでいない。通常、受信データはページバッファ 53 に記憶されるが、ホストコンピュータからの繰り返しデータ転送を避ける為に同時にディスクメモリ 54 にも記憶される。ページバッファ 53 に記憶された受信データは、描画部 56 にて処理され、印刷完了後に消去される。しかしディスクメモリ 54 にも記憶されている為、再び、操作パネル 55 よりディスクメモリ 54 に記憶した受信データを読み出すことにより、ホストコンピュータよりデータを再受信することなく、前回同様のデータを印刷出力することが出来る。

【0004】

【発明が解決しようとする課題】 しかしながら図 6 の印刷装置では、受信データを単純にディスクメモリ 54 に記憶しているため、データの識別が困難である。したがって複数のジョブ（単数あるいは複数ページからなる一連のデータ）が存在する場合、ジョブの選択が困難であった。また、ホストコンピュータではジョブの選択を行うことができないという問題点があった。

【0005】 それ故に本発明の課題は、ジョブの選択が容易でありかつホストコンピュータでもジョブの選択を行うことができる印刷装置を提供することにある。

【0006】 本発明の他の課題は、データの選択、消去をホストコンピュータで行うことができ、したがって煩わしい操作を解消した印刷装置を提供することにある。

【0007】

【課題を解決するための手段】 本発明によれば、処理データと該処理データに付加されたヘッダ情報とを有するデータ列を受信し、前記処理データの印刷を行う印刷装置であって、複数の記憶エリアのうちの選ばれた記憶エリアに前記処理データを記憶する処理データ記憶手段と、前記選ばれた記憶エリアを表すアドレスデータを伴って前記ヘッダ情報を記憶するヘッダ情報記憶手段と、印刷要求に基づき前記ヘッダ情報記憶手段から前記ヘッダ情報に伴うアドレスデータを読取るアドレスデータ読取り手段と、前記処理データ記憶手段から前記読取ったアドレスデータで表された記憶エリアの処理データを読取る処理データ読取り手段と、前記処理データ読取り手段で読取った処理データを印刷処理する印刷処理手段とを含むことを特徴とする印刷装置が得られる。

【0008】 また本発明によれば、ホストコンピュータ上で起動するアプリケーションソフトウェアのプリンタドライバにて処理データに付加されたデータ識別の為のヘッダ情報を判別するヘッダ情報判別手段と、前記ヘッダ情報を記憶するヘッダ情報記憶手段と、前記処理デー

タを記憶する処理データ記憶手段と、前記処理データ記憶手段を制御し、前記処理データの格納番地を前記ヘッダ情報記憶手段に通知する処理データ制御手段と、要求により前記ヘッダ情報で選択された処理データを印刷するための印刷処理手段とを備えたことを特徴とする印刷装置が得られる。

【0009】

【実施例】次に本発明について図面を参照して説明する。

【0010】図1は本発明の一実施例による印刷装置をホストコンピュータ10との関係で示すブロック図である。ホストコンピュータ10は、アプリケーションソフトウェアにしたがって規定されたプリンタ専用のプリンタドライバ11と、プリンタ保持データ検索選択指示ソフトウェアにしたがって規定されたプリンタ指示装置12と、これらに接続されたホストインターフェース13とを含み、印刷装置が処理可能な一連のコマンド群を送信する。ホストインターフェース13は双方向I/Oインターフェースである。

【0011】プリンタドライバ11は、図2に示す様に印刷装置で処理可能な処理データ21にそのヘッダ情報として、データ管理名22、データ保持レベル23、及び日付24を付加し、データ列20としてホストインターフェース13を介して印刷装置に送信する。データ管理名22には32バイトが割り当てられる。データ保持レベル23には1バイトが割り当てられ、後で説明するように、その8ビットのうちの最下桁ビットの論理“0”は暫定記憶(T)を表し、論理“1”は恒久記憶(P)を表す。なお日付24には6バイトが割り当てられる。

【0012】次に印刷装置について説明する。印刷装置はプリンタインターフェース31を含んでいる。ホストインターフェース13から送信されたデータ列20はプリンタインターフェース31で受信される。プリンタインターフェース31も双方向I/Oインターフェースである。プリンタインターフェース31で受信されたデータ列20はヘッダ情報判別部32に供給される。ヘッダ情報判別部32は、データ列20のヘッダ情報の部分より最初のデータ管理名22を確認し、既にヘッダ情報記憶部33に登録された管理名か否かを判別する。データ管理名22が新規名ものであれば、これは新規管理名としてヘッダ情報記憶部33に登録される。データ管理名22が登録済みの場合には更新される。さらに、データ管理名22に続くデータ保持レベル22及び日付23もヘッダ情報記憶部33に後述する情報格納表のように登録される。

【0013】後で詳細に説明するように、この印刷装置はさらに、記憶装置制御部34、処理データ記憶装置35、データ転送制御部36、データ制御部37、描画処理部38、ページメモリ39、及びプリンタエンジン4

1を含んでいる。

【0014】図3にヘッダ情報記憶部33に登録された情報格納表を示す。この情報格納表では、データ管理名22、データ保持レベル23及び日付24に、ID25及び記憶アドレス26が付加されている。ID25は、記憶されたデータをデータ管理名21で選択するかわりに、便宜上、IDコードを割り当ててID31で選択できるようにしたものである。記憶アドレス26は、例えば、処理データ記憶装置35として0000000h番地から13FFFFFFh番地までの20Mバイトのエリアが確保されていた場合、この範囲内で処理データが格納されている開始アドレスを意味する。

【0015】記憶アドレス26のエリアは、0000000h番地から09FFFFFFh番地までの暫定データ記憶エリアと0A00000h番地から13FFFFFFh番地までの恒久データ記憶エリアに分割されている。暫定データ記憶エリアと恒久データ記憶エリアのどちらに処理データを記憶するかは、先のデータ列20の情報ヘッダにおけるデータ保持レベル23にて決定される。暫定データ記憶エリアでは、既に記憶済のデータで記憶の余地が無い場合に日付の古いものを捨てていく処理が自動的に行なわれる。恒久データ記憶エリアにおいては、記憶の余地が無い場合、どのデータを捨てるかは、ユーザ側で判別し消去しなければならない。消去選択方法に関しては後述する。

【0016】処理データ記憶装置は多数の記憶エリアを有している。これらの記憶エリアのうちの空きエリアの検索や、書き込み先開始アドレスの決定は、全て記憶装置制御部34で行われる。またその検索や決定の情報をヘッダ情報記憶部33の開始アドレスに反映させるようにしている。データ列20のヘッダ情報としてのデータ管理名21、データ保持レベル22、及び日付23は、ヘッダ情報記憶部33に格納され、続く処理データ21のみが記憶装置制御部34により処理データ記憶装置35の多数の記憶エリアのうちの選ばれた記憶エリアに記憶される。したがって情報格納表には、選ばれた記憶エリアを表すアドレスデータを伴ってヘッダ情報が記録されることになる。

【0017】処理データ21は、ヘッダ情報判別部32を通してページメモリ39にも送られ、処理データ記憶装置35に加えてページメモリ39にも記憶される。そして通常は、ページメモリ35に記憶された処理データがデータ制御部39の制御下で描画処理部38に送られ、この描画処理部38にて所定の処理を行われた後、プリンタエンジン41に送られ、その動作により印刷される。印刷の完了後にはページメモリ35の処理データは消去される。

【0018】次にデータの選択及び消去方法について説明する。

【0019】ホストコンピュータ10のプリンタ指示装

置 12 を起動する。この時のホストコンピュータ 10 と印刷装置とを接続するホストインターフェース 13 及びプリンタインターフェース 31 の各々としては、RS 232C シリアルインターフェースあるいは IEEE 1284 準拠のパラレルインターフェースを使用し得る。

【0020】処理データ記憶装置 35 に記憶された処理データの一覧をデータ転送制御部 36 がヘッダ情報記憶部 33 から読取り、ホストコンピュータ 10 に転送する。このときの転送情報は、ID 25、データ管理名 22、データ保持レベル 23、日付 24 である。プリンタ指示装置 12 は、その転送情報をに依じて例えば図 4 に示すような内容をホストコンピュータ 10 のモニタ画面上に表示する。この時、ID 番号 31 は表示されない。ユーザは、モニタ画面上で再出力したいデータまたは消去したいデータを管理名で選び、項番を入力する。この操作を受けてプリンタ指示装置 12 は、再度、印刷装置に処理データの再出力又は消去を指示するデータ再出力／消去指示データ列を転送する。このときのデータ列による指示は ID 25 で行われる。

【0021】プリンタ指示装置 12 が印刷装置に処理データの再出力の要求、即ち、印刷要求を行うと、これに基づきヘッダ情報記憶部 33 からヘッダ情報に伴うアドレスデータをデータ制御部 37 が読取る。このときデータ制御部 37 はアドレスデータ読取り装置として働く。さらにその読取ったアドレスデータで表された記憶エリアの処理データを記憶装置制御部 34 で読取る。このとき記憶装置制御部 34 は処理データ読取り装置として働く。この読取った処理データをデータ制御部 37 を通して描画処理部 38 に送り、所定の描画処理を行った後、印刷処理手段としてのプリンタエンジン 41 に送り、所定の印刷を実行させる。

【0022】図 6 はデータ再出力／消去指示データ列を示す。再出力指示の場合、ID 25 に対応したデータの開始アドレスより記憶装置制御部 34 により処理データ記憶装置 35 からデータが呼び出され、データ制御部 37 に転送される。以下、通常同様、描画処理部 38 により描画データが作成され、プリンタエンジン 10 により印刷出力される。

【0023】上述した印刷装置によると、処理データに

【図 4】

現在、データ記憶媒体に保持されているデータリスト		
1. データ 1	T	1994.8.5
2. データ 2	P	1994.8.20
3. データ 3	P	1994.9.10
4. データ 4	T	1994.9.25
データを再出力しますか？		
データを消去しますか？		

→ 40

ヘッダ情報としてデータ管理名、データ保持レベル、及び日付を付加することにより、複数のジョブの識別が可能となり、また、処理データの選択や消去がホストコンピュータ 10 を介して行なえる為、印刷装置の操作の煩わしさが解消される。

【0024】

【発明の効果】以上説明したように本発明によれば、ジョブの選択が容易でありかつホストコンピュータでもジョブの選択を行うことができる印刷装置を提供することができる。またデータの選択、消去をホストコンピュータで行うことができ、したがって煩わしい操作も解消できる。

【図面の簡単な説明】

【図 1】本発明の一実施例による印刷装置をホストコンピュータとの関係で示すブロック図である。

【図 2】ホストコンピュータから送信されるデータ列の説明図である。

【図 3】図 1 の印刷装置に含まれたヘッダ情報記憶部の情報格納表の説明図である。

【図 4】ホストコンピュータのモニタ画面の表示内容の一例の説明図である。

【図 5】データ再出力／消去指示データ列の説明図である。

【図 6】従来の印刷装置のブロック図である。

【符号の説明】

- 10 ホストコンピュータ
- 11 プリンタドライバ
- 12 プリンタ指示装置
- 13 ホストインターフェース
- 31 プリンタインターフェース
- 32 ヘッダ情報判別部
- 33 ヘッダ情報記憶部
- 34 記憶装置制御部
- 35 データ記憶装置
- 36 データ転送制御部
- 37 データ制御部
- 38 描画処理部
- 39 ページメモリ
- 41 プリンタエンジン

【図 5】

ソフト出力識別コード	再出力／消去	ID
------------	--------	----

```

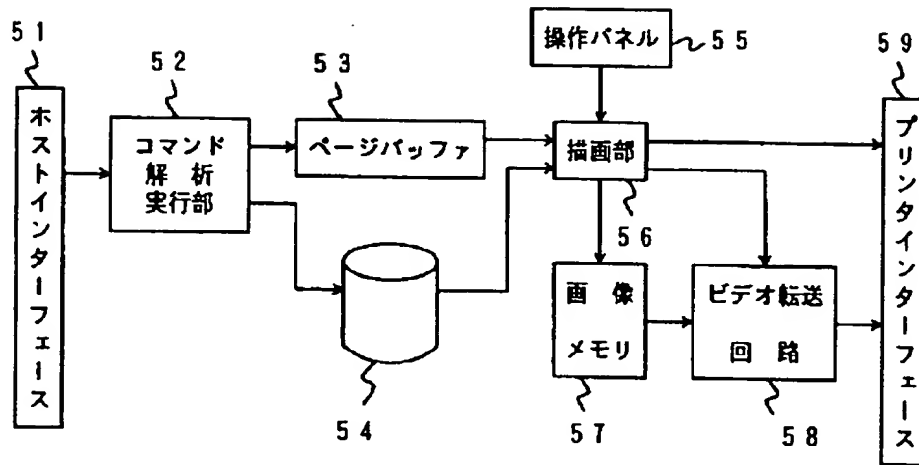
graph TD
    subgraph 10 [ ]
        11[プリンタドライバ]
        12[プリンタ指示装置]
        13[ホストインターフェース]
        11 --> 13
        12 <--> 13
    end
    13 <--> 31[プリンタインターフェース]
    31 --> 36[データ転送制御部]
    36 <--> 33[ヘッダ情報記憶部]
    33 <--> 32[ヘッダ情報判別部]
    32 --> 37[データ制御部]
    37 <--> 39[ページメモリ]
    37 <--> 34[記憶装置制御部]
    37 --> 38[描画処理部]
    34 <--> 33
    34 --> 35[(35)]
    35 --> 34
    38 --> 41[プリンタエンジン]

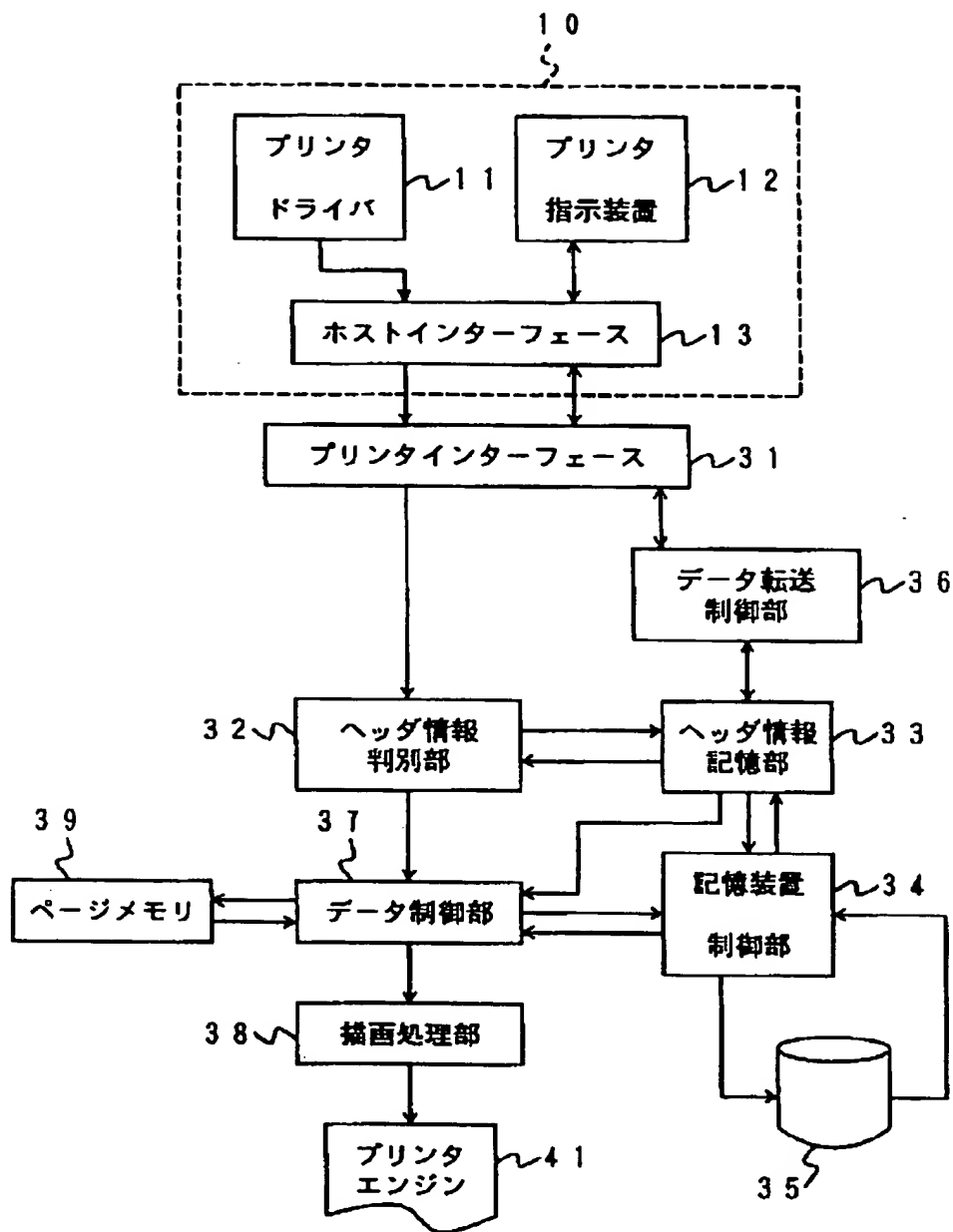
```

Figure 1 is a schematic diagram of a data structure. It consists of a horizontal bar divided into four segments labeled 22, 23, 24, and 21 from left to right. Segment 22 is connected to a vertical line that branches into a triangular structure. This structure contains a row of eight boxes labeled 7, 6, 5, 4, 3, 2, 1, and 0 from left to right. Boxes 7 through 1 contain an 'X', while box 0 is empty. A legend below the diagram indicates that '0' represents a fixed value (T) and '1' represents a variable value (P).

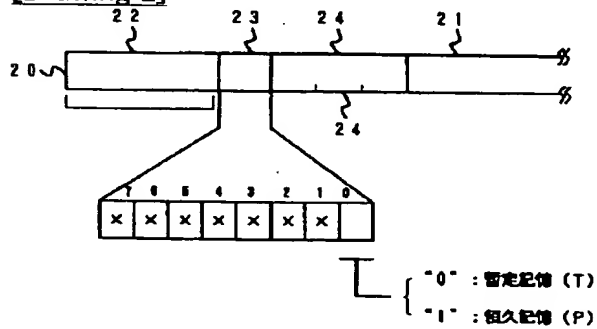
	25	22	23	26	24
	ID	データ 管理名	データ 保持レベル	記憶 アドレス	日付
30	001	データ1	T	0000000H	1994.8.5
	002	データ2	P	0A00000H	1994.8.20
	003	データ3	P	0A10000H	1994.9.10
	004	データ4	T	0020000H	1994.9.25
	⋮	⋮	⋮	⋮	

【図6】





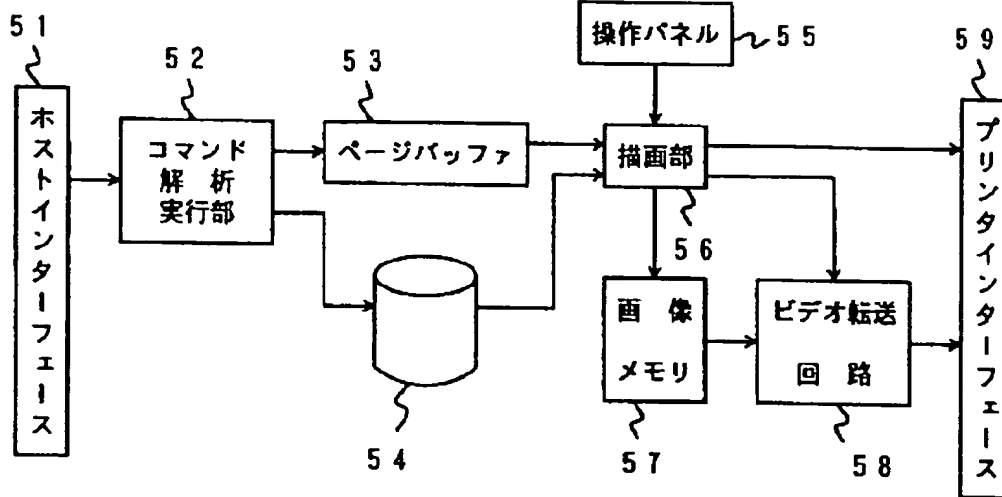
[Drawing 2]



[Drawing 3]

	25	22	23	26	24
	ID	データ 管理名	データ 保持レベル	記 号 アドレス	日付
80	001	データ1	T	0000000H	1994.8.5
	002	データ2	P	0A00000H	1994.8.20
	003	データ3	P	0A10000H	1994.9.10
	004	データ4	T	0020000H	1994.9.25
	⋮	⋮	⋮	⋮	

[Drawing 6]



[Translation done.]

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